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| **Lesson Title:** Periodic Table Cards |
| **Subject area / course / grade level:** 8th grade Science |
| **Introduction:** This lesson is best used after the basic introduction to the concept and basics of the Periodic Table. It is used to allow students to dive deeper into some of the specifics of certain elements, as well as learn about the grouping of Periods and Families.  Each student will make a card of a specified element and be responsible for learning as much as possible about that specific element. |
| **Lesson Length:** about 2 Class periods |
| **Materials:** textbook, whiteboard and supplies, construction paper (10 colors), pencils, markers, computer w/ internet, tape, glue |
| **Lesson Overview:** Students will do research and create a piece of an interactive Periodic Table by learning about 1 element and making a card about said element. |
| **Tennessee Standards:** SPI 0807.9.9 – Use the periodic table to determine the properties of an element. |
| **Lesson objective(s):** To investigate the characteristics, properties, and history of one element from the Periodic Table. |
| **ENGAGEMENT**   * I use this lesson after we have been introduced to the Periodic Table. We have already covered the different areas, groups, reading the boxes, etc. I tell the students that we are going to be making our own interactive Periodic Table, and that they are each responsible for an element. * Students should be focusing on what they already know about the Periodic Table and how they are going to design their cards. |
| **EXPLORATION**   * Students will be using a computer and internet to research an assigned group of elements. I divide the class into groups or pairs and assign them a group from the Periodic Table. They have to work together to research the elements in that group and make cards for each one. The groups will be color coded so that our table will be broken into the groups in the end. * The cards will be construction paper, folded “hamburger style”, with the front appearing the way you might see it on an ordinary Periodic Table. (They could also include a picture of the element in a common form or use) The inside will have information that they have researched about the elements. It can include: who discovered the element? what are some common uses? what are its basic characteristics? what is it like at room temperature? metal, nonmetal, or metalloid? or any other information that would be interesting to them. * The best sites I have found are [www.ptable.com](http://www.ptable.com) (it is incredibly interactive) and [www.periodictable.com](http://www.periodictable.com) (it has great pictures, but items they can buy so make sure they don’t try to purchase anything) There are also others like [www.webelements.com](http://www.webelements.com) but the first two are the best in my opinion. * Teacher will be focusing on making sure the students understand the organization of the table, how the groups and periods work together, and getting the introduction work on the basics of the table boxes (atomic number, symbol, etc.) |
| **EXPLANATION**   * Students need to be able to explain things they see connecting their elements. What connects the elements in groups, etc. * Ask questions like how is the table organized?, why are these elements here?, what similarities do you see with your elements?, and so on. |
| **ELABORATION**   * Students will develop a deeper knowledge of their specified elements and therefore, the groups that they belong to. * No new vocabulary, but known vocabulary should include *element, Periodic Table, proton, neutron, electron, atomic number, atomic mass, valence electron,* etc. * Daily application is used with ingredients, properties of metals and nonmetals, can later be applied to mixtures and compounds. |
| **EVALUATION**   * Students should be able to answer most questions asked to them since this is not an introduction lesson. They should be able to tell information about their element and how those characteristics and the Periodic Table relate to each other. Can they look at the table and tell basic properties of elements based on their location? Can they be given characteristics and give an approximate location of the element on the table? |